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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/890,168	10/30/2001	Tomio Echigo	954-010444-U	7706
2512	7590	05/23/2006	EXAMINER	
PERMAN & GREEN 425 POST ROAD FAIRFIELD, CT 06824			YANG, RYAN R	
			ART UNIT	PAPER NUMBER
			2628	

DATE MAILED: 05/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/890,168

**Applicant(s)**

ECHIGO ET AL.

**Examiner**

Ryan R. Yang

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 17 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 8-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 8-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3/31/2006 has been entered.
2. This action is responsive to communications: Amendment, filed on 3/31/2006. This action is non-final.
3. Claims 1-6 and 8-20 are pending in this application. Claims 1-6, 8-9 and 20 are independent claims. In the Amendment, filed on 3/31/2006, claims 1-6, 8-9 and 20 were amended.
4. This application claims foreign priority dated 1/26/1999.
5. The present title of the invention is "Method and device for describing video contents" as filed originally.

### ***Claim Rejections - 35 USC § 103***

6. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
7. Claims 1, 2, 8 and 10-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gong et al. ("Automatic Parsing of TV Soccer Programs"

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Proceedings of the International Conference on Multimedia Computing and Systems, May 1995 Pages: 167 – 174), and further in view of Dimitrova et al. (Rx for semantic video database retrieval, Proceedings of the second ACM international conference on Multimedia, Pages: 219 - 226, 1994).

8. As per claim 1, Gong et al., hereinafter Gong, discloses a description means for contents of a motion picture, said means comprising:

(a) means for setting a reference plane by using a zone description and a camera model (section 2 page 168 in second paragraph (left col.) lines 3-6 a soccer court as a reference plane and it discloses zone description in first paragraph (Right col.) lines 1-7 and it discloses using camera model in second paragraph (Right col.) lines 8-15);

(b) means for describing each of a plurality of objects on said motion picture by positioning on said reference plane and a predefined type of actions (section 2 page 168; in third paragraph (right col.) lines 4-11 describing each object (players and ball) on the reference plane (on the court) and predefined type of action (i.e. corner kick) in page 169 first paragraph (left col.) lines 7-13); and

(c) means for describing each scene of a plurality of scenes in said motion picture by using said means for describing each of a plurality of objects in respective ones of said scenes (in page 169 first paragraph (left col.).

Gong discloses a description means for contents of a motion picture. It is noted that Gong does not explicitly disclose that the description means provides a description based on changes in the shape of an object wherein the shape of the object is

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determined by the silhouette of the object, however, this is known in the art as taught by Dimitrova et al., hereinafter Dimitrova. Dimitrova discloses that in a video database retrieval, a high level motion analysis is described (page 223, column 2, first paragraph, wherein after assembling object activities- strolling, walking, hurrying, etc., we can infer event information).

Thus, it would have been obvious to one of ordinary skill in the art to incorporate the teaching of Dimitrova into Gong because Gong discloses means to describe a motion picture and Dimitrova discloses the object description in a motion picture can include changing shape in order to increase the flexibility of classifying pictures.

9. As per claim 2, Gong discloses a search means for contents of a motion picture, said means comprising of:

(a) means for setting a reference plane by using a zone description and a camera model (section 2 page 168 in second paragraph (left col.) lines 3-6 a soccer court as a reference plane and it discloses zone description in first paragraph (Right col.) lines 1-7 and it discloses using camera model in second paragraph (Right col.) lines 8-15);

(b) means for describing each of a plurality of objects on said motion picture by positioning on said reference plane and a predefined type of actions (section 2 page 168; in third paragraph (right col.) lines 4-11 describing each object (players and ball) on the reference plane (on the court) and predefined type of action (i.e. corner kick) in page 169 first paragraph (left col.) lines 7-13); and

(c) means for describing each of a plurality of scenes in said motion pictures by using said means for describing each of a plurality of objects in respective ones of said scenes (in page 169 first paragraph (left col.); and

(d) means for searching the motion picture by using said means for describing each object or said means for describing each scene (page 173 first paragraph (left col.)).

Gong discloses a description means for contents of a motion picture. It is noted that Gong does not explicitly disclose that the description means provides a description based on changes in the shape of an object, however, this is known in the art as taught by Dimitrova. Dimitrova discloses that in a video database retrieval, a high level motion analysis is described (page 223, column 2, first paragraph, where after assembling object activities- strolling, walking, hurrying, etc., we can infer event information).

Thus, it would have been obvious to one of ordinary skill in the art to incorporate the teaching of Dimitrova into Gong because Gong discloses means to describe a motion picture and Dimitrova discloses the object description in a motion picture can include changing shape in order to increase the flexibility of classifying pictures.

10. As per claim 8, it recites a computer readable storage medium which has recorded a program containing executable instructions executing the method of claim 1. It is inherent to have a medium configured to store or transport computer readable code in a computer system. For example compact disc has been included and used in the computer systems since 1990s or magnetic data storage devices have been used since 1980s.

11. AS per claim 10, Gong and Dimitrova demonstrated all the elements as disclosed in the rejected claims 1, and Gong further discloses the description means wherein the reference plane comprises information on object positions independently of a camera movement (page 168 section 2 third paragraph (left col.)- first paragraph (right col.).

12. As per claim 11, Gong and Dimitrova demonstrated all the elements as disclosed in the rejected claims 1, and Gong further discloses the description means wherein the reference plane represents a ground for determining positions of objects in relation to an actual direction of motion of the object. (section 2 page 168 third paragraph (right col.) lines 6-11).

13. As per claim 12, it is the same in scope and content as claim 10 and therefore is rejected under the same rationale.

14. As per claim 13, it is the same in scope and content as claim 11 and therefore is rejected under the same rationale.

15. Claims 3-6, 9 and 14-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dimitrova et al. (Rx for semantic video database retrieval, Proceedings of the second ACM international conference on Multimedia, Pages: 219 - 226, Year of publication 1994) in view of Gong.

16. As per independent claim 3, Dimitrova discloses a description method for a motion picture, said method comprising the steps of:

(a) determining a reference plane by using a zone description and a camera model, wherein the reference plane represents information of objects and their positions included in said motion picture (Dimitrova discloses in section 3 page 223-section 4

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page 224-225 using a semantic multiresolution hierarchy (also demonstrated in Fig. 3) along with spatiotemporal representation to retrieve video scenes. In section 4 it discloses a domain D containing all objects of interest (examiner interpret this to be the reference plane) and then it uses motion analysis to associate domain-dependent activities with the object trajectory and since motion trajectory of object is a spatial representation of the object's motion (the path) it can determine the trajectory's origination point (examiner interpret this as zone description);

(b) representing changes over time of each of said object positions on said reference plane as a trajectory (Dimitrova discloses in section 3.1 page 221 third paragraph in left column lines 5-8);

(c) setting a description unit based on a predefined type of actions of each of said objects by using changes in shape of each object so as to assign actions of each object as respective behavioral sections, wherein the shape of the object is determined by the silhouette of the object (page 223, column 2, first paragraph, where after assembling object activities- strolling, walking, hurrying, etc., we can infer event information); and

(d) defining each scene by plural objects. (Dimitrova discloses part c and part d in section 3.3 page 223. It discloses a description unit based on predefined type of activities (actions) by identifying each object components (shape) and their respective trajectories and the time information and then it discloses defining each scene by plural object in section 4 page 224 second paragraph in right column).



Dimitrova does not explicitly disclose using a camera model for setting a reference plane. On the other hand, Gong discloses using camera model in second paragraph (Right col.) lines 8-15 in his program for parsing soccer game video. It would have been obvious to one of ordinary skill in the art at the time of invention to add the camera model of Gong to the Dimitrova's program because the camera operations produce a specific pattern in the motion vector field that shows the movement of the play and this represent an important semantic description of the soccer scenes that can be used in Dimitrova's semantic hierarchy to retrieve video sense.

17. As per independent claim 4, claim elements (a), (b), (c) and (d) are similar to claim 3 and therefore are rejected under the same rationale. Regarding part (e), Dimitrova discloses in section 4.1 page 225 in the first and second paragraph of the left column.

18. As per independent claim 5, it claims a description method for motion picture, said method comprising the steps of:

- (a) determining a reference plane from said motion picture by using a zone description and a camera model;

- (b) cutting a region map, an object trajectory ID, an action ID and a camera parameter from said motion picture;

- (c) creating description of actions by each object from said region map, said object trajectory ID, said action ID and said camera parameter; and

(d) creating description of scenes by using said description of actions by each object.

Parts (a) is similar to part (a) of claims 3 and 4 and therefore is rejected under the same rationale. Regarding parts (b), (c), and (d) Dimitrova discloses in sec. 4 page 224 first paragraph line 1 in left column — line 24 of first paragraph in right column.

19. As per claim independent claim 6, it claims a search method for motion picture, said method comprising the steps of:

(a) determining a reference plane from said motion picture by using a zone description and a camera model;

(b) cutting a region map, an object trajectory ID, an action ID and a camera parameter from said motion picture;

(c) creating description of actions by each object from said region map, said object trajectory ID, said action ID and said camera parameter;

(d) creating description of scenes by using said description of actions by each object; and

(e) searching a specific scene by using said description of actions by each object or said description of scenes." Parts (a), (b), (c) and (d) are the same as claim 5 and therefore are rejected under the same rationale. Regarding part (e), Dimitrova discloses in section 4.1 page 225 in the first and second paragraph of the left column.

20. As per claim 9, it recite a computer readable storage medium which has recorded program containing executable instructions executing the method of claim 3. It is inherent to have a medium configured to store or transport computer readable code in a

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computer system. For example compact disc has been included and used in the computer systems since 1990s or magnetic data storage devices have been used since 1980s.

21. As per dependent claim 14, it claims the description method on claim 3 wherein the reference plane further represents motion of objects independently of camera motion (Dimitrova discloses in sec. 4 page 224 in second paragraph, right column).

22. As per claim 15, it claims the description method of claim 3 wherein the reference plane further represents a ground for determining position and movement of objects in relation to an actual direction of motion of the object that is independent of a camera motion (Dimitrova discloses in figure 3 and in section 3.4 page 223).

23. As per claims 16-19, they are the same as claim 15 and therefore they are rejected under the same rationale as claim 15.

24. As per claim 20, it recites a computer readable storage medium which has recorded program containing executable instructions executing the method of claim 5. It is inherent to have a medium configured to store or transport computer readable code in a computer system. For example compact disc has been included and used in the computer systems since 1990s or magnetic data storage devices have been used since 1980s.

### **Response to Arguments**

25. Applicant's arguments filed 3/31/2006 have been fully considered but they are not persuasive.

Applicant traverses Examiner's rejection based on Dimitrova by arguing, in Figure 3, Dimitrova presents stick figure which is rigid in nature. In reply, Examiner consider even though the sub-parts of the object is rigid the whole object changes. The analysis of changes in the relative positions of subparts determines activities.

As for the added limitation "wherein the shape of the object is determined by the silhouette of the object", since the specification (page 14, line 13) defines silhouette as "which represents changes in shape of each object", Examiner consider the scope of the limitation remains the same.


### ***Conclusion***

26. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ryan R. Yang whose telephone number is (571) 272-7666. The examiner can normally be reached on M-F 8:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Razavi can be reached on (571) 272-7664. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Ryan Yang  
Primary Examiner  
May 17, 2006